



The Shape of Business Improvement

CQAA March Presentation
Quality Outlook 2022 | March 2022

Agenda

- **Setting the Stage for 2022:** The New Quality Reality
 - Remote Isn't Going Away
 - The Great Resignation
 - Do More With Less
- **Key Quality Trends for 2022:**
 - Composable Quality
 - Decision Intelligence
 - Hyperautomation
 - Total Experience
 - Additional Trends
- **Closing Remarks:**
 - Summary
 - Q&A



Remote Isn't Going Away



“Around 80% of consumers
will see the world as all
digital, with no divide”

Forrester Predictions 2022

Robinhood allowing primarily
Remote work for employees
On Permanent Basis

Brad Dress – The Hill 1/12/2022

Most remote workers say they
might quit before returning to
the office – 55%

Morning Consult 1/12/2022

Corporate America revamps
back-to-office plans on
Omicron threat

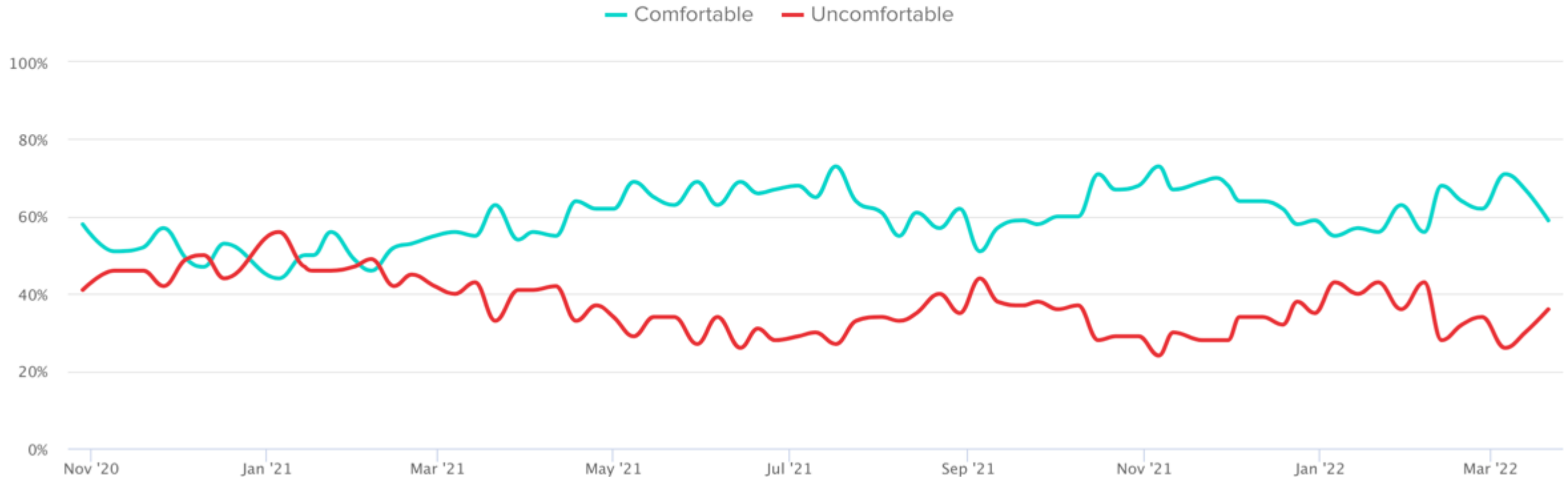
Reuters 1/11/2022

Workers Are Happy to Stay Away



59% of Current Remote Workers Would Feel Comfortable Returning to the Office

Adults who are currently working remotely were asked, "If your office announced that you could return to your normal workplace starting next week, how comfortable would you feel returning to the office?"



Tracking the Return to Normal: Work & Office
Morning Consult 3/23/2022

The Great Resignation?



Workers aren't just quitting; they're rethinking what they want out of work—and shifting their expectations about professional life.

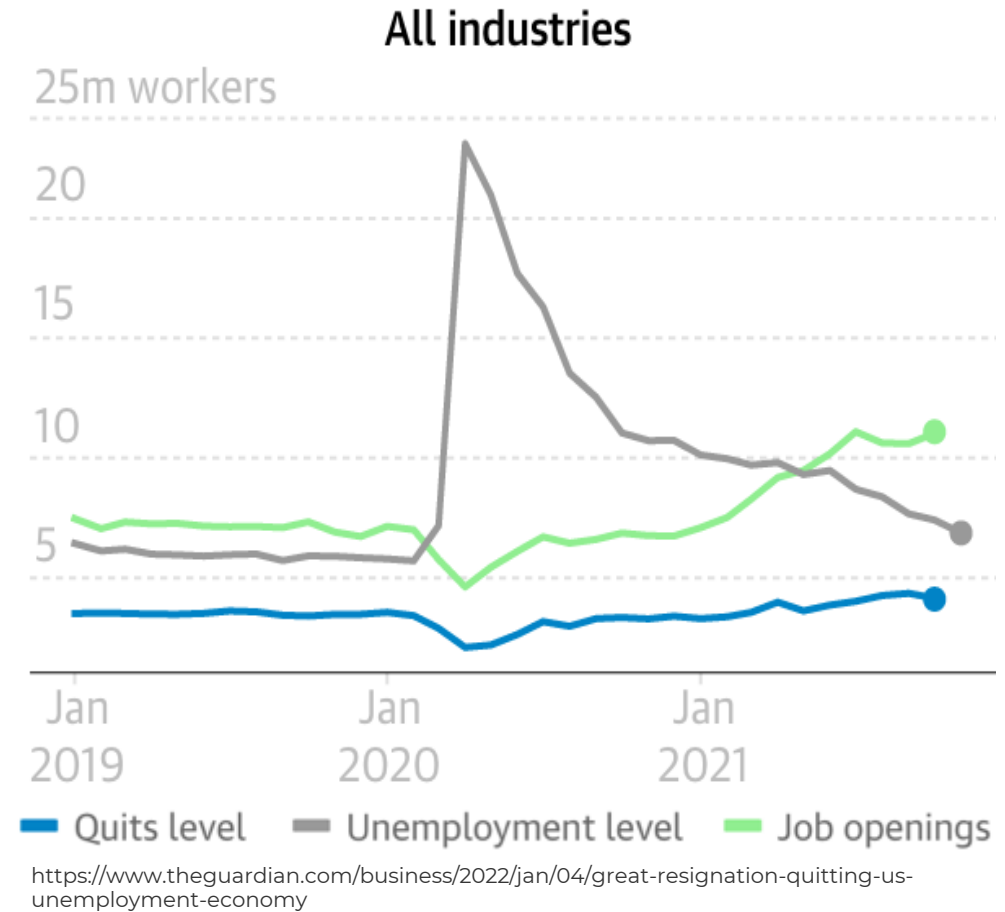
Jenna McGregor, Forbes 12/14/2021

Less than half (43.5%) of employees say they are happy or totally happy with their work life.

Samer Saab, Prosper Insights & Analytics (Forbes 1/11/2021)

Employees between 30 and 45 years old have had the greatest increase in resignations rates with an average increase of more than 20% between 2020 and 2021. While turnover is typically highest among younger employees, our study found that over the last year, resignations **decreased** for workers in the 20 to 25 age range

Ian Cook, Harvard Business Review 9/15/2021



The two industries hit the hardest: Healthcare and Tech

Do More With Less

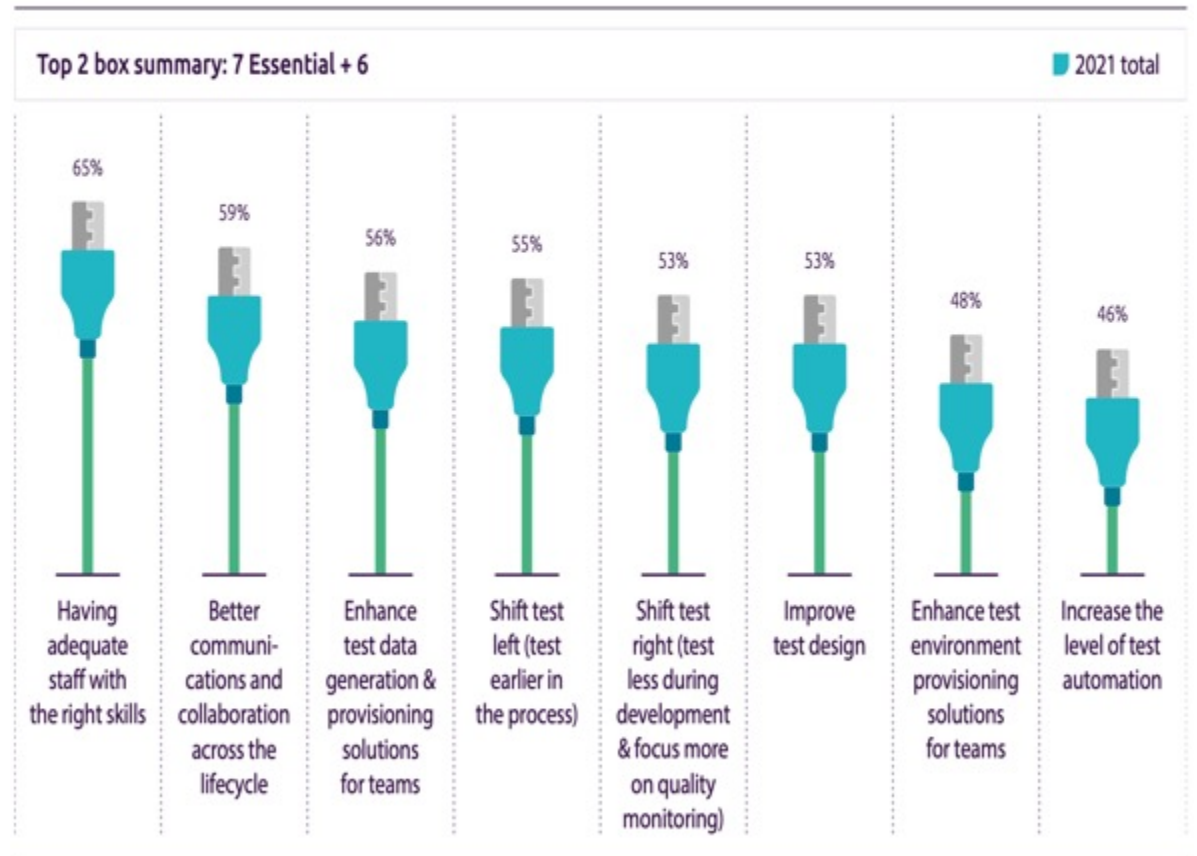
So, what we've said so far is:

- We must deal with remote working longer
- Some people might quit before they return to the office
- There are a lot of people leaving their jobs
- There are currently more opens jobs than candidates to fill them
- Candidates are asking for and in a lot of cases, getting 30%+ raises

AND

- Quality budgets didn't increase in 2021 from 2020 numbers where budgets had hit <20% of IT spend (which started to decline in 2015 when QA budgets were 35% of IT spend)

Fig 03 Importance of the following aspects towards making testing more efficient

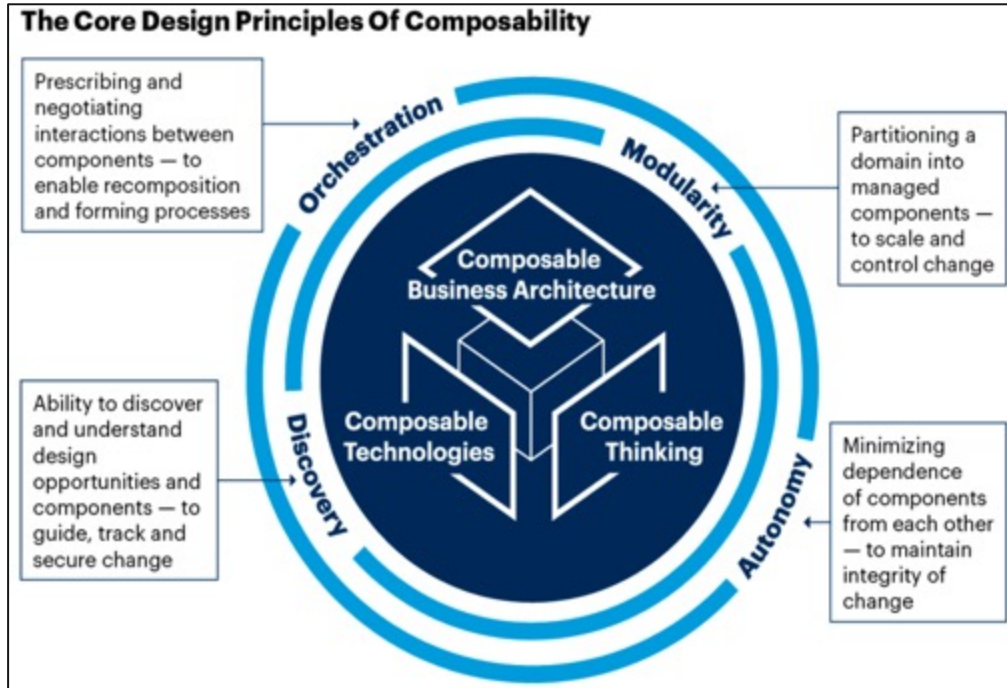


QA Outlook 2022

Key Quality Trends for 2022



Composable Quality



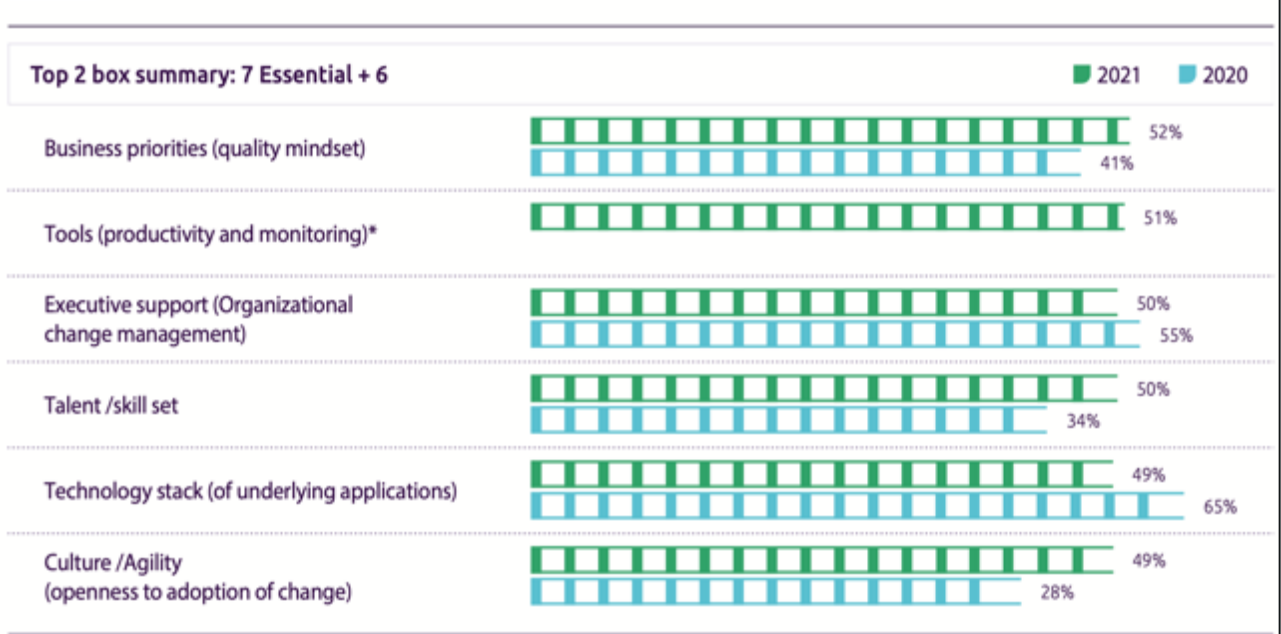
Becoming Composable: A Gartner Trend Insight – G00753614 – Page 5

Definition:

Composable Quality is the application of the core principles of composability (modularity, autonomy, orchestration and discovery) to the foundations of Quality Maturity (best practices, Quality as a Service, and strategy) in order to eliminate Quality risks and deliver business value.

- Indicators for Successful Agile:**
- **Mindset** – Composable Thinking
 - **Talent** – Composable Thinking
 - **Culture** – Composable Thinking

Fig 05 Importance of the following aspects for successful Agile and DevOps adoption

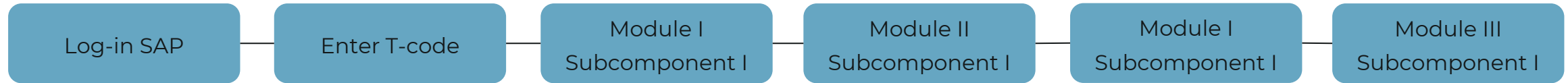


Capgemini & Microfocus – 13th Annual World Quality Report – Page 21

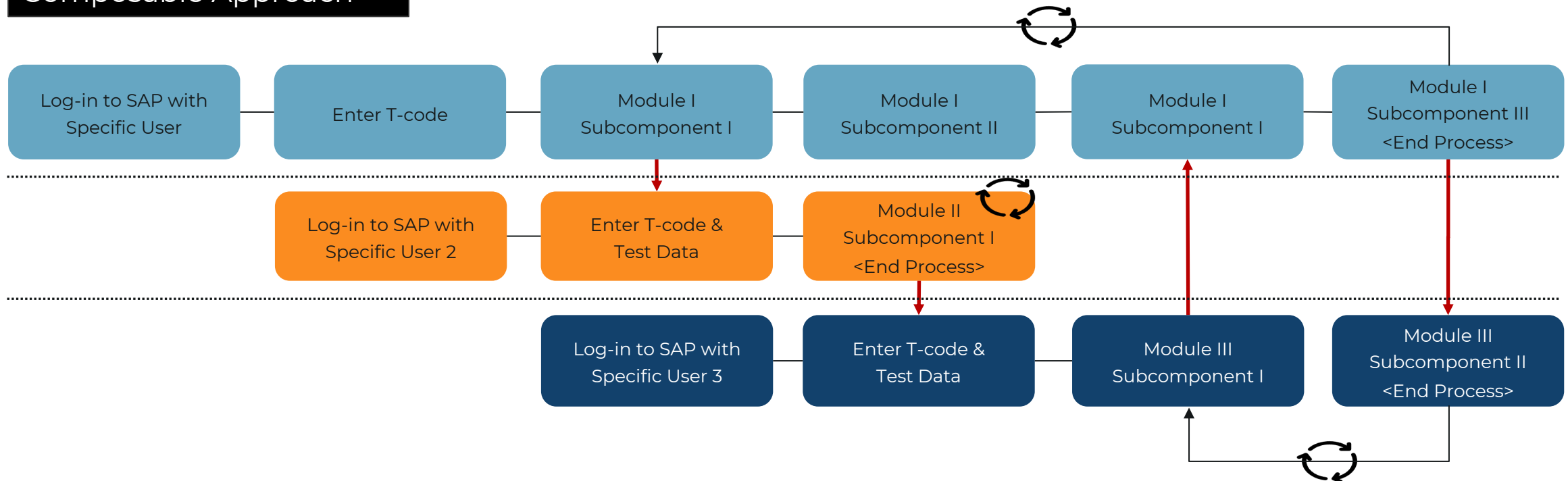
Composable Quality Example



Traditional Approach



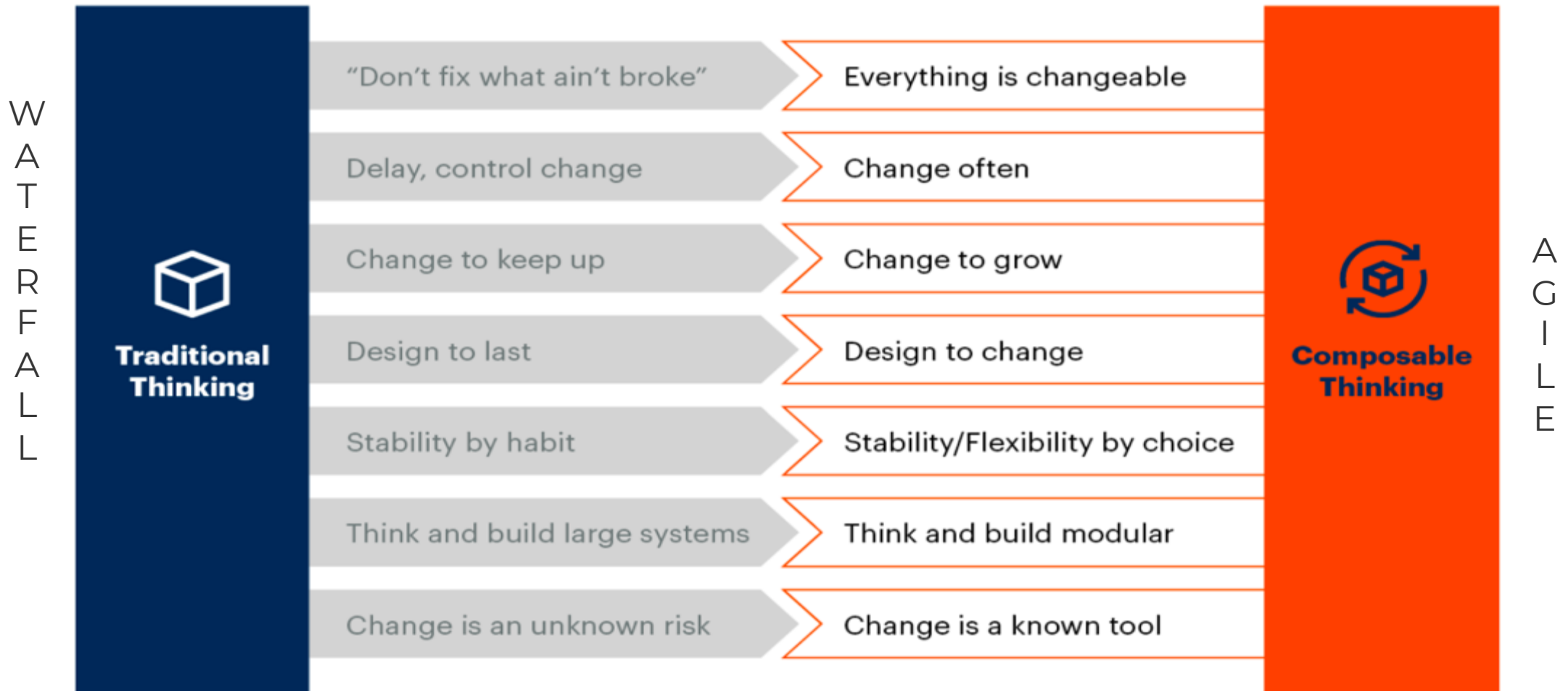
Composable Approach



Composable Thinking



Adopting Composable Thinking



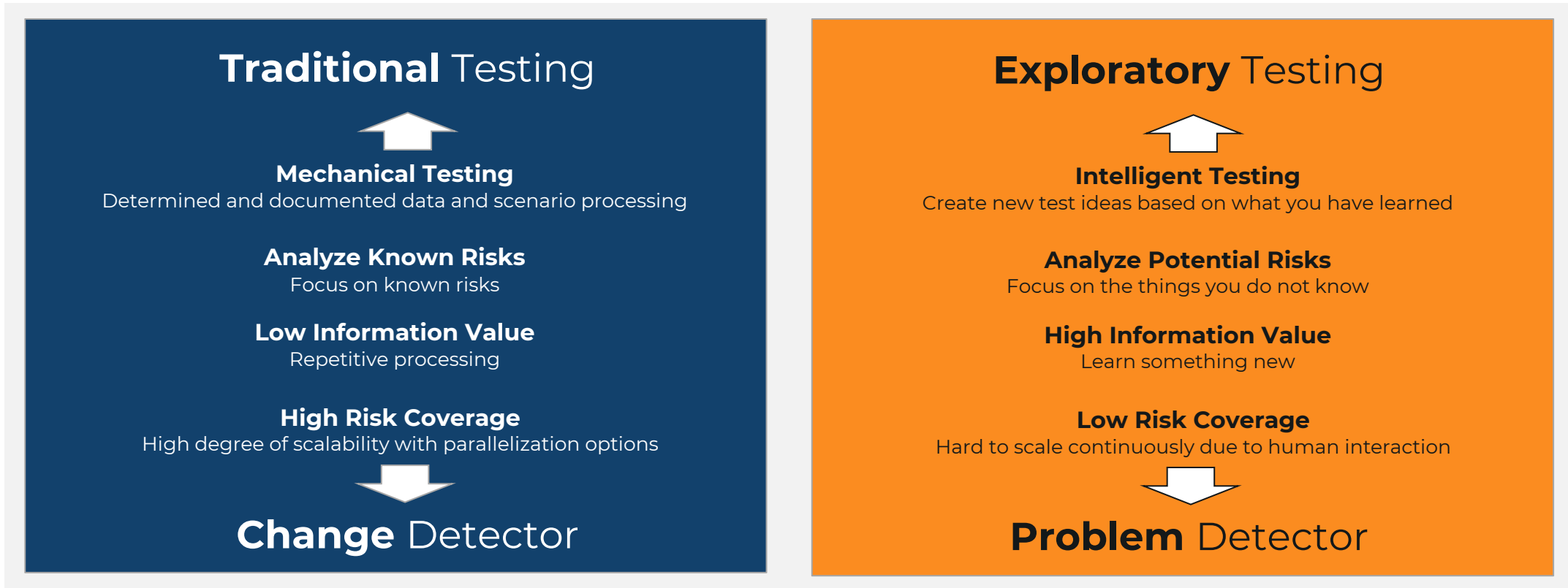
Composable Quality Thinking



“Organizations must move from a traditional application or project-centric model of quality to a **holistic quality approach** by adopting an ecosystem-centric view of quality” **Gartner**

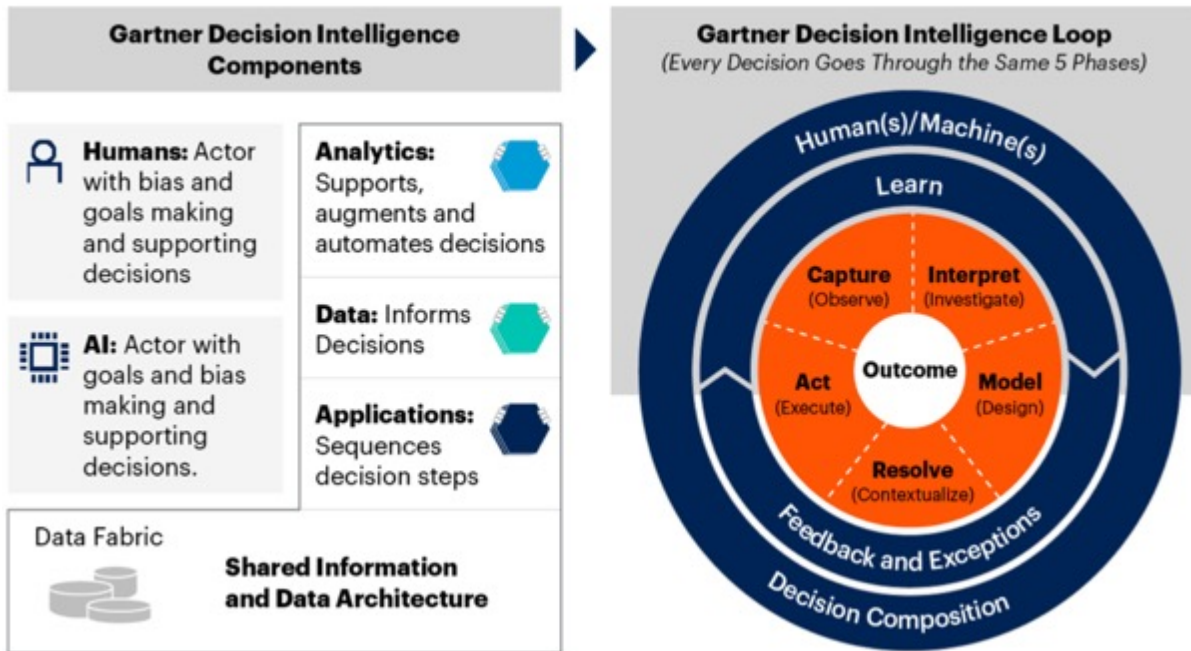
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Decision Intelligence

Decision Intelligence



Pieter den Hamer - <https://www.gartner.com/doc/reprints?id=1-285IKT6E&ct=211117&st=sb> – 10/18/2021

Decision intelligence is a practical discipline used to improve decision making by explicitly understanding and engineering how decisions are made and how outcomes are evaluated, managed and improved by **feedback**

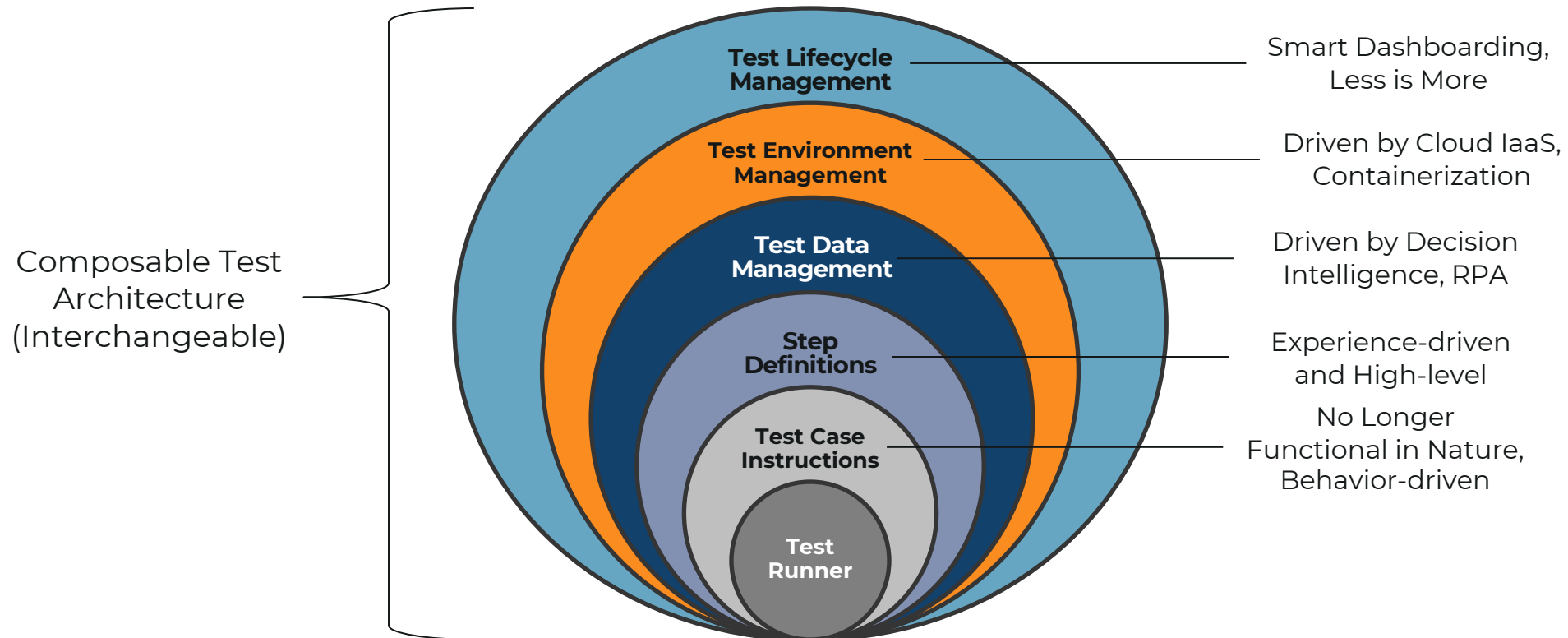
Put into the context of testing, what does it mean?

- Better realization of Test Strategies
 - Answers the questions “what” and “why” which challenge organizations far more significantly than “how”
 - Compliments shift-left pre-test activities
 - Improves shift-right monitoring
- Helps organizations start to achieve a better return on their investment in test automation
 - Optimized test coverage (what to automate)
 - Reduced test execution time (fewer tests)
 - Better detection of defects with impact to critical business workflows
 - Reduced Cost of Quality
- Predictable test data?
 - What data is needed
 - How much data is needed
 - When is the data needed

Hyperautomation



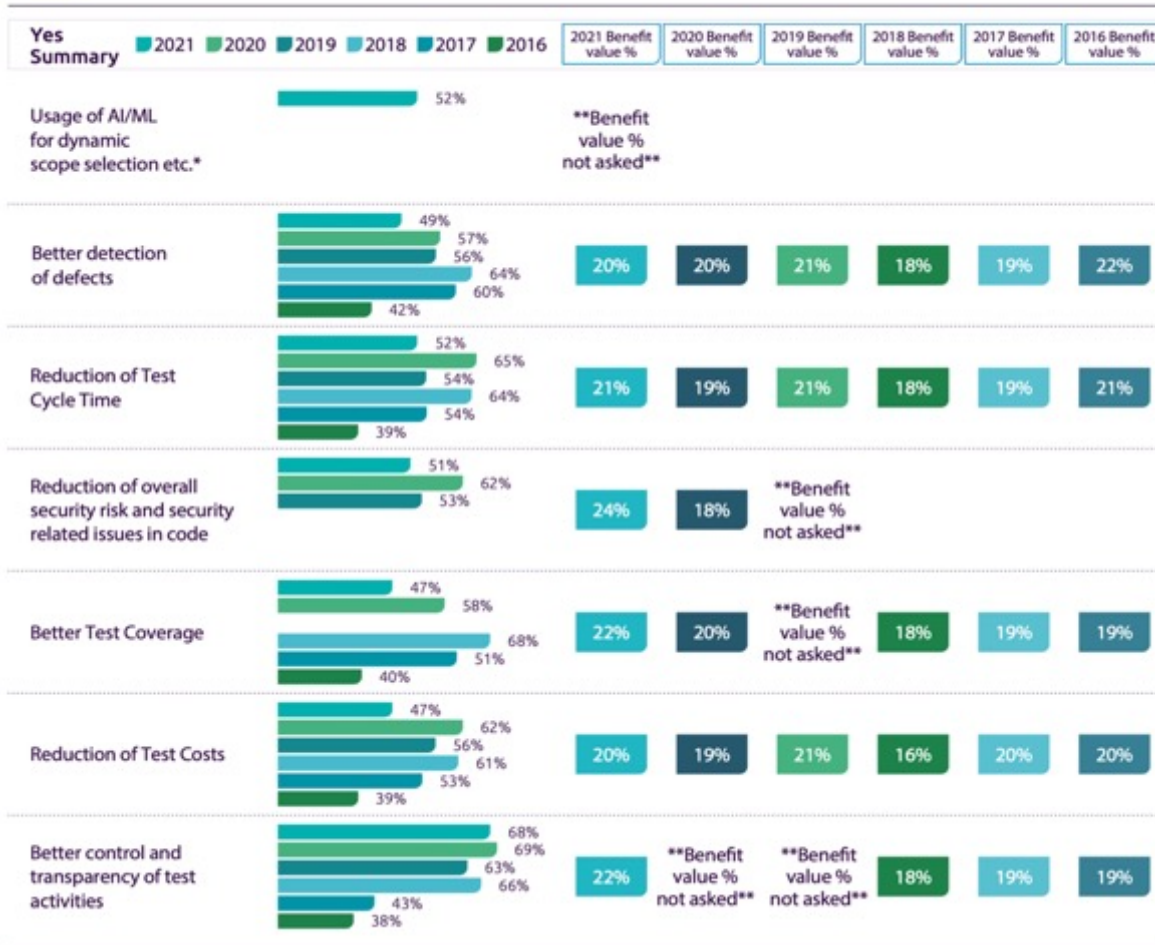
Hyperautomation is a disciplined approach that organizations use to rapidly identify, vet and automate as many business **and** IT processes as possible. Hyperautomation involves the orchestrated use of multiple technologies, tools, or platforms including RPA, Low-Code Platforms, and Process Mining Tools



Hyperautomation – Why It Matters



Fig 06 Benefits realized from Test Automation



Why It Matters:

- 2/3 of all automation efforts are **not** realizing the benefits of test automation
- 56% of people still do as much manual testing as they do automated testing
- 8% drop in realizing better defect detection (most organizations are between 15-18% automated)
- **A 13% drop in respondents seeing test cycle reductions**
- 11% drop in seeing better test coverage (only 18% of business scenarios are being automated)
- 15% drop in realizing cost savings from test automation (the cost of sustaining & maintaining automation is getting higher)
- 5% drop in organizations saying they are trying to get more efficient with testing by maximizing the automation of tests

Total Experience



Total Experience unifies four disciplines: customer experience, user experience, employee experience and multiexperience to create a better experience for consumers and employees. The goal is to interconnect and enhance each of these for a more holistic overall experience for all stakeholders.

“A new era of transformation comprising human-centered technology initiatives that form a tight link between customer experience (CX) and employee experience (EX), drive competitive advantage, and deliver a 3% to 5% net gain in productivity”

Forrester – Predictions 2022

Multiexperience: the various permutations of modalities (e.g., touch, voice, and gestures), devices, and apps that users interact with on their digital journey across their various touchpoints.

Goal: to provide a consistent user experience across web, mobile, wearable, conversational, and immersive touchpoints.

So, What: everything we’ve talked about today has led us to this point. Our testing world is going to get even more complex in 2022 and we need to do testing better...with a better mindset, with better data to make decisions, and with better automation.

By 2026, 60% of large Enterprises will use total experience to transform their business models to achieve world-class customer and employee advocacy levels.

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Gartner

How To Get Started With Change in 2022



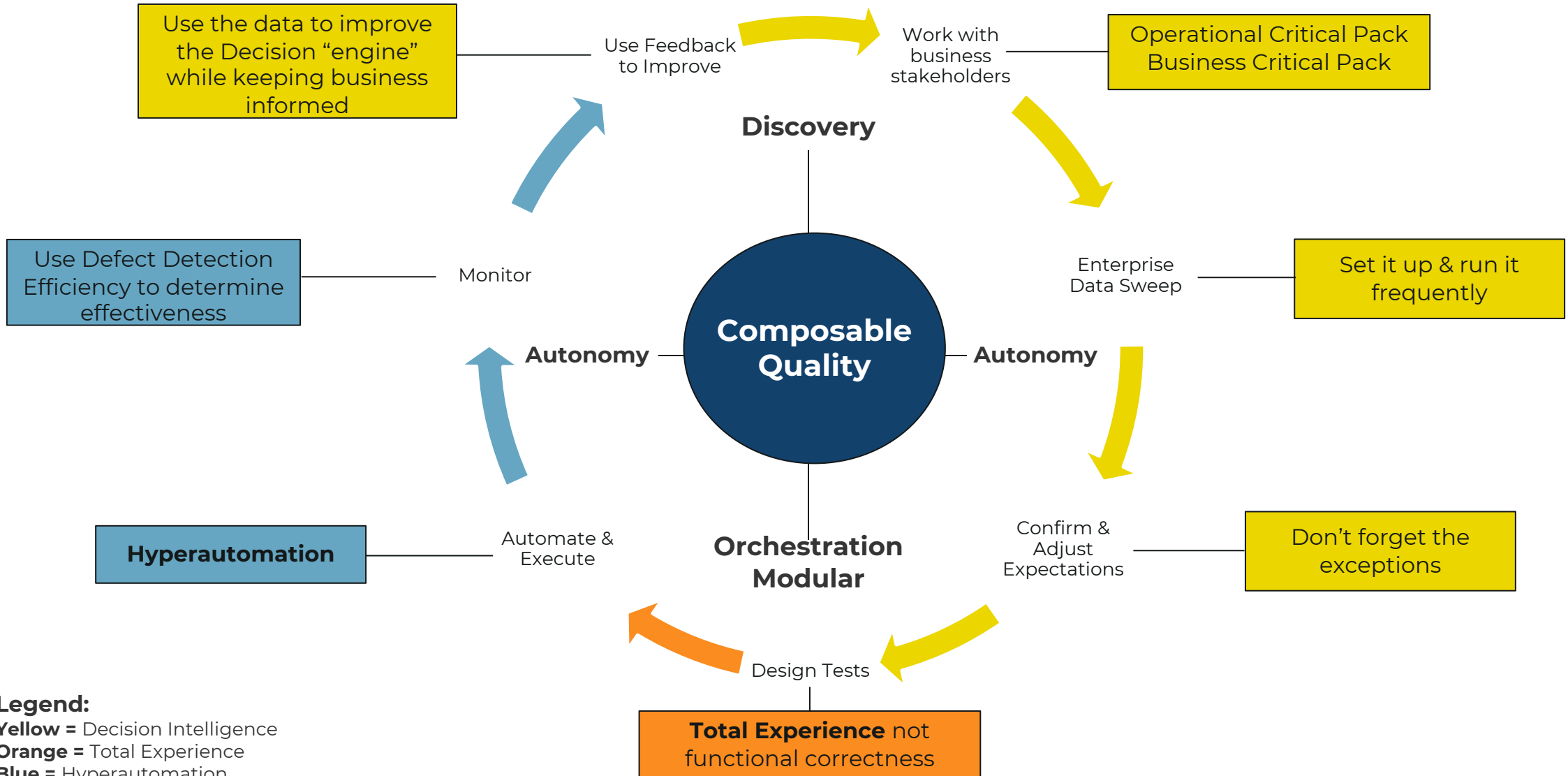
The Death of a Sacred Testing Cow – The End of Regression Testing

- Over 50% of project/product team testing efforts will be spent on Regression Testing
- In most organizations with moderately mature Quality practices, Regression Testing will identify roughly 7-10% of defects
- Pre-test activities are 25% more effective at detecting defects compared to heads down testing
- Nearly 75% of test automation efforts are focused on Regression Testing (2/3 of efforts which won't realize the benefits of automated testing)
- In a time when testers are being asked to do more with less, testers will, on average, spend more than 34 hours of their week on heads down testing
- Regression Testing does not typically consider customer experience, user experience, or multiexperience as a basis for what needs to be tested

Important Concept: Bring Sexy Back

- Two types of **Change Testing**:
 - **Regression Testing** - A type of change-related testing performed to detect whether defects have been introduced or uncovered in unchanged areas of a component, software, or system
 - **Confirmation Testing** - A type of change-related testing performed after fixing a defect to confirm that a failure caused by that defect does not reoccur

Switching Testing Paradigms in 2022



Other Trends



In 2022, **60%** of security incidents will involve third parties.

Forrester

Test Data Management and Test Environment Management will continue to lag in 2022

World Quality Report

Cybersecurity mesh will become an important tool for organizations

Gartner

In 2022, **\$10 billion** in design spending will shift to vendors and services that commit to accessibility.

Forrester

In 2022, container adoption will hit 50%.

Forrester

10% of technology executives will prioritize investments to radically expand creativity and innovation.

Forrester

QA Outlook 2022

Closing Remarks



Questions, Comments, or Feedback



- Open Discussion



References



Buwalda, Hans. *Better Software*, www.stickyminds.com, February 2004.

Capgemini. *World Quality Report*, www.worldqualityreport.com, 2021-22.

Forrester. *Forrester Predictions 2022-NA*, 2022.

Gartner. *2022-gartner-top-strategic-technology trends-ebook*, 2022.

Gartner. *753614-becoming-composable-gartner-insight*, 2022.

International Organization for Standards. ISO 16085, <https://www.iso.org/standard/40723.html>.

International Organization for Standards. ISO 25010, <https://www.iso.org/standard/35733.html>.

International Organization for Standards. ISO 25012, <https://www.iso.org/standard/35736.html>.

International Organization for Standards. ISO 25030, <https://www.iso.org/standard/35755.html>.

International Organization for Standards. ISO 25040, <https://www.iso.org/standard/35765.html>.

International Software Testing Qualifications Board. <https://www.istqb.org/>, 2018

Jones, Capers, Bonsignour, Olivier. *The Economics of Software Quality*, Addison-Wesley, Upper Saddle River, NJ 2012.

Jones, Capers. *Software Defect Origins and Removal Methods*, www.namcook.com, 2013.

Jones, Capers. *Software Defect Removal Efficiency*, <https://pdfs.semanticscholar.org/4e1b/c72a0324664e46e1404c6dc5ce3ed266020d.pdf>, 2011.

Kan, Stephen H. *Metrics and Models in Software Quality Engineering*, Addison-Wesley, Upper Saddle River, NJ 2005.

Kaner, Cem. *An Introduction to Scenario Testing*, http://www.testingeducation.org/BBST/testdesign/Kaner_ScenarioIntroVer5.pdf, April 2013.



THANK YOU